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The Tulijá, which further down falls into the Usumasinta from the south-west, is remarkable for the remains of a stone bridge whose arches are under water, and on the right side the stream has separated the bridge from the bank. The Tulijá, at this spot, is about a quarter of a mile in breadth. This bridge I consider of the same antiquity as the other ruins of the country.

The river Tabasco, which, near the sea, also joins the Usumasinta from the south-west, flows by the city of San Juan Bautista, formerly Villa Ferosa, capital of the state of Tabasco, a port of entry much frequented by vessels from the United States of North America.

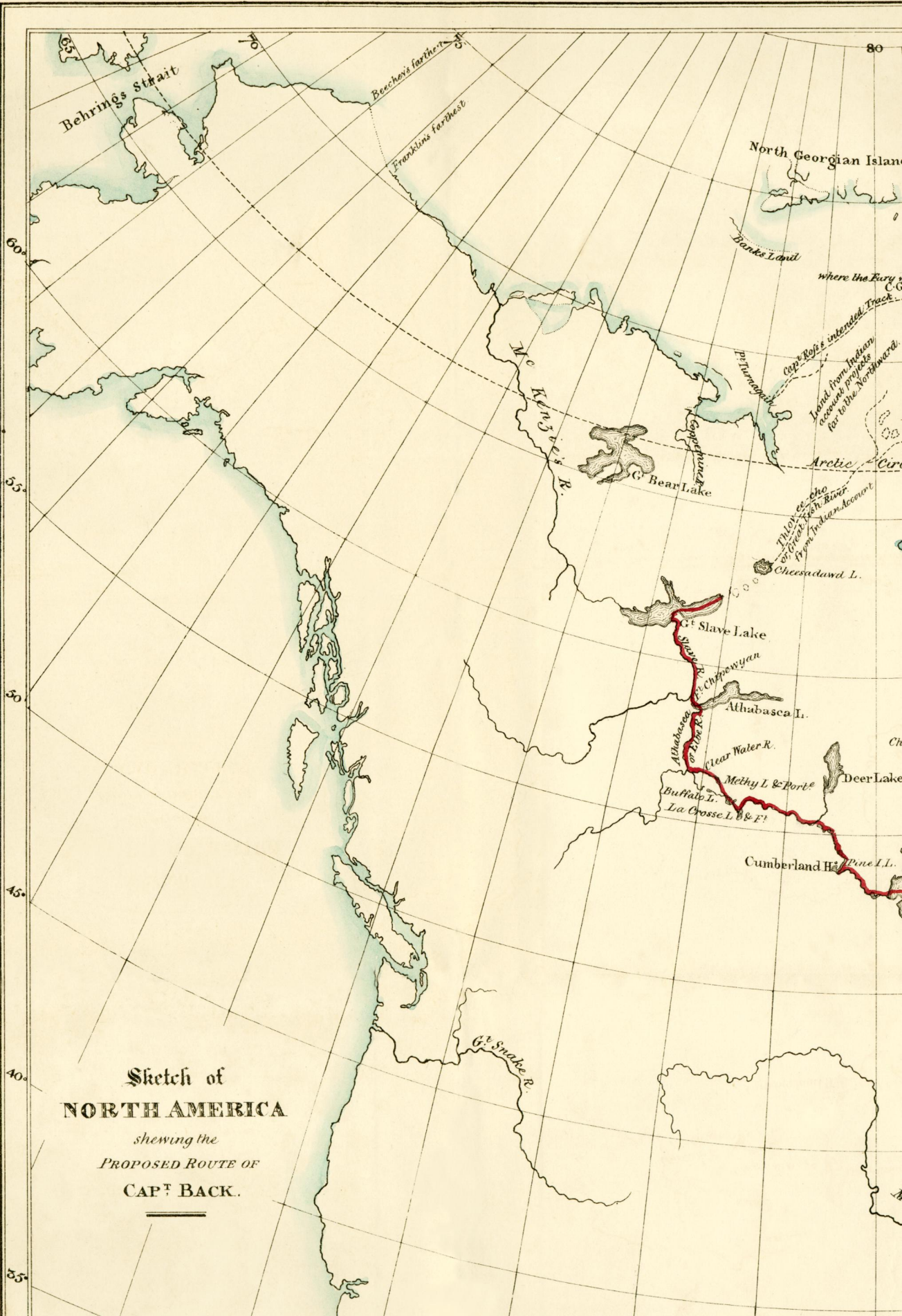
The Usumasinta, below the cataract, is navigated in boats of considerable burthen, and flows in numerous channels and ramifications; but its principal mouth is at the port of Victoria, where it joins the bay of Campeachy, to the westward of the lake of Terminos. The bar at the mouth is passed by merchant vessels, which sail up to San Juan Bautista.

### III.—*Account of the Route to be pursued by the Arctic Land Expedition in Search of Captain Ross.* Communicated by Captain Back, R. N. Read, 10th Dec. 1831.

It is almost unnecessary to state that the sympathy of the public has been warmly excited in favour of a projected expedition to go in search of, and if possible to afford relief to, Captain Ross and his crew of nineteen persons, who have been absent a little more than three years from England.

The narrative of the Albany and Discovery, as quoted from Mr. Barrow's Chronological History of Arctic Voyages, is too generally circulated to require repetition here; and in reference to Ross and his gallant associates, we may certainly say, in the language of the same distinguished author, that it is impossible to 'contemplate their forlorn situation without the deepest emotion for the unhappy fate of so many wretched beings, cut off from all human aid, and almost from all hope of ever being able to leave their dark and dismal abode.'—(p. 151.)

The projected expedition will consist of two officers and about eighteen men, all of them accustomed to the duties and fatigue of travelling in America; and some of Sir John Franklin's companions on his last journey have volunteered their services on the occasion. It is of importance that the party, when furnished with such supplies as may be deemed essential, should leave Liverpool



Sketch of  
**NORTH AMERICA**  
shewing the  
PROPOSED ROUTE OF  
CAPT BACK.





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HUDSON'S BAY

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and Ha Pine I. L.

L. Winnipeg

Winnipeg R.

L. of the Woods

Rainy R.

William

L. Superior

Nipissing L.

French R.

Montreal

Ottawa R.

L. Huron

L. Ontario

L. Michigan

L. Erie

NEW YORK

Mississippi R.

Missouri R.

60°

55°

50°

45°

40°

35°





Sketch of  
**NORTH AMERICA**  
 shewing the  
 PROPOSED ROUTE OF  
 CAP<sup>T</sup> BACK.





either in January or early in February, in order to get to New York, and thence to Montreal by the 10th of April.

This would allow sufficient time to engage Canadian voyageurs as steersmen and guides, as well as to prepare the equipment usual on proceeding into the interior,—such as assorted stores of trading goods, ammunition, and a plentiful supply of provisions. A *canot de maître*, which is much larger than the *north-canoe*, is sufficient to carry the packages and crew; and by the 1st of May it is hoped they will be on Lake Huron. The route lies along the northern shores of this lake, which are sterile and uninteresting, with little other variety than an occasional mountain or high land. The Manatouline islands, rich in fossils, run almost parallel, and terminate at the Sault de St. Marie, by which the waters of Lake Superior are discharged into Lake Huron, ‘the descent not being more than twenty feet, in a distance of four or five hundred yards.’—(Major Long’s *Journey*, p. 237.)

From the vast quantity of fish that was caught at the Sault, it was formerly a favourite resort of the Indians of the Algonquin tribe, but even in Sir Alexander Mackenzie’s time they had become reduced to about thirty families, ‘who are,’ says he, ‘one half of the year starving, and the other half intoxicated.’—(Mackenzie, p. 38.) It is usual to obtain a fresh supply of provisions at the Sault, and then to follow the trendings of the northern shore of Lake Superior across Michipicoton Bay, to the entrance of the Kamanatekwoya, or Dog River, on the right bank of which stands the Hudson’s Bay Company’s post, Fort William. The country skirting the north side of the lake ‘is indented with numerous bays and inlets, and presents an uninterrupted succession of hills, based upon rocks, and faced with precipices.’—(Major Long, p. 235.) These hills do not attain an elevation of more than four hundred feet, with the solitary exception of Thunder Mountain, which is about six hundred.

In describing the scenery of this lake, Major Long says, ‘the country along the lake is one of the most dreary imaginable, considering its latitude, and the facility with which it may be approached. Its surface is everywhere rocky, broken, and unproductive, even in the natural growth of trees common to rugged stations; its climate is cold and inhospitable; the means of subsistence are so circumscribed that man finds no possibility of residing on it in a savage state. Game is extremely scarce. Few, if any, esculent plants grow spontaneously. Fish, it is true, abound in its waters, but only such as can be plentifully caught by means of nets; and the total absence of sandy beaches along the greater part of its extent prevents their use, and thus precludes even this last mode of subsistence. Accordingly, all the Chippewas that we saw on the lake did not exceed half a dozen families.’—(p. 199.)

At Fort William the canot de maître will be exchanged for the two north-canoes provided for the expedition by the Hudson's Bay Company, and a supply of Indian corn and fat will also be procured. Where other food is not abundant these two substances form the regular rations of the voyageurs, and by many are even preferred to their favourite pemmican. The corn is prepared by boiling in a strong alkali, which takes off the outer husk ; it is then well washed, and carefully dried upon stages,—when it is fit for use. One quart of this is boiled over a moderate fire in a gallon of water, to which a couple of ounces of melted suet are added, which 'cause the corn to split' and make a 'pretty thick pudding, named *hominee*.' It is considered a 'wholesome, palatable food, and easy of digestion.'

In ascending the river Kamanatekwoya, the route is impeded by seventeen 'portages' and 'decharges.' One of the portages is occasioned by the falls of Kakabikka (a cleft rock), 'remarkable on account of the volume of water which they present,—the great height from which it falls,—the picturesque appearance of the rocks which surround the cascade,—the wildness of the vegetation that accompanies it,—and, finally, on account of the very great noise which it produces,' and which is thought to be 'far greater than that of Niagara.' The perpendicular pitch of the rock is about one hundred and thirty feet, and it is composed of mica slate, with horizontal strata of quartz.—(Major Long, p. 136.) Directly opposite, or on the north side of the river, is a cavity in the rock, which, in the superstitious legends of the Indians, is regarded as the residence of an evil spirit. Muddy Lake, which lies a little farther on, in the direct line of route, seems to possess a peculiar property, the cause of which has not yet been explained,—it is that of attracting in a manner to require unusual exertion on the part of the voyageurs to force their canoes over it. Sir Alexander Mackenzie notices this circumstance, and distinctly says that 'he found it very difficult to get away from this attractive power, six men, and great exertion, having been required to overcome it'—(Mackenzie, *Introduction*) ; and during the late expedition, under Sir John Franklin, our heavy canoes met the same obstruction,—the lake at the time being slightly agitated by a moderate breeze, but devoid of whirlpools, or any bubbling to account for such an effect. On quitting this singular lake we are led to the 'Portage de la Prairie'—'one end of which communicates with the waters of Lake Winnipeg, while the streams at the other end flow towards Lake Superior.'—(Major Long, p. 126.) This, accordingly, is the dividing ridge, and is extremely swampy.

'Although the country is hilly near the summit level, yet the highest ground between the waters of the Winnipeg and St. Lawrence is not more than one hundred and fifty feet above the level



of the two lakes. The highest water running to the St. Lawrence is a small pool called "Cold Water Lake," only one hundred and fifty yards long and about twenty wide. Its name is appropriate, the temperature of its water being lower than that of the surrounding lakes and streams. It is supplied by a spring issuing from the side of a hill, and which is not more than two hundred yards from the lake. Its temperature was only  $41^{\circ}$  of Fahrenheit, whilst the lake was about  $42^{\circ}$ , and that of the atmosphere at the time of the observation  $63^{\circ}$ . We saw no rocks *in situ* about the spring, but entertain no doubt that the whole country is granitic.'

Passing through a number of small rivers, in which frequent rapids impede the progress of the voyageur, we arrive at Rainy Lake; and after travelling about fifty miles, among islands formed for the most part of mica-slate, the route is again interrupted by a waterfall of twenty-five feet descent, adjacent to the company's establishment at the head of the Rainy River. The rock here is chiefly sienite, and the banks of the river are well wooded with pitch pine, white pine, and spruce. After a course of one hundred miles Rainy River falls into the 'Lake of the Woods,' which is studded with islands, and has a notoriety amongst the voyageurs for the dangerous, sudden, and violent squalls of wind which frequently surprise them in the middle of the 'grande traverse,' and expose them to serious loss or long detention. Its circumference is said to be near 'three hundred miles, and its shores are much indented by bays, in which an immense quantity of wild rice is annually collected.' On the islands, which are covered 'with small trees, chiefly pine, spruce, hazel, willow, cherry, &c. &c., besides vast quantities of bushes bearing berries, the prickly pear is to be seen.'—(Major Long, p. 105.) After crossing the Rat Portage we get to the River Winnipeg, which is a noble stream, though fraught with danger, and full of rapids, cascades, and waterfalls, and one is admonished of the fatal accidents that have occurred, by the many wooden crosses placed on the banks. They are the mementos erected by survivors to the memory of their lost companions, and form as it were beacons to point out the most dangerous spots.

Below the Slave Fall the rocks are chiefly gniess or granite; their outline is bold, and they present many basins or coves, in which the water forms eddies, and not unfrequently a smooth expanse, contrasting well with the rough billows of the adjoining torrent. The red colour of the sienite is relieved by streaks of black mica, which intersect its surface and have the appearance of designs executed on a gigantic scale. The most attractive spot, perhaps, on this river is that which has received the name of 'The Fall of the Moving Waters,' which partakes of the character of a 'troubled ocean,' whose waves rise high and beat against

the adjoining shores. 'One of the most imposing characters of these falls also is the noise which they produce, and which, taking their size into consideration, is equally thought to exceed that of Niagara, Montmorency, Schaffhausen, St. Anthony, or the Cohoes. The river falls into Lake Winnipeg in about  $50^{\circ} 36'$  north latitude. Few lakes receive so many and such large streams as this; by some of these, and by the rivers which flow from it, a direct communication is kept up, not only with several distant points of the Eastern and Atlantic Ocean, but also with the Pacific or Western.' Its length is about two hundred and seventy miles.

The expedition will hence continue to follow the regular route to Cumberland House, at which place the canoes will be exchanged for two boats of sufficient dimensions to carry the sixty bags of pemmican, furnished by the liberality of the Hudson's Bay Company. Pemmican is made of the dried and pounded flesh of the buffalo, moose or rein deer, with a proportionate quantity of the fat of the same animals; it is put into bags of ninety pounds each, and, if well preserved, will keep good for several years, being decidedly the most substantial as well as the best adapted food for the country. Several bales of goods, combining all those in general use for Indian traffic and presents, will also be in readiness at Cumberland House; and thus equipped with the *matériel* necessary for forming a new establishment, together with the sixty bags of pemmican already mentioned, the party will make the best of its way across Pine Island Lake and along the river tracks shown in the map, to Isle à la Crosse, Buffalo and Methye Lakes, as far as Portage la Loche, or Methye Portage. This is the next height of land, or 'part of the range of mountains which separates the waters flowing south from those flowing north.'—(Franklin, p. 131.) According to Sir Alexander Mackenzie, 'this range of hills continues in a south-west direction until its height is lost between the Saskatchewan and Elk rivers, near the banks of the former, in lat.  $53^{\circ} 36'$  N., long.  $113^{\circ} 45'$  W. The Portage is in lat.  $56^{\circ} 41' 40''$  N., long.  $109^{\circ} 52' 15''$  W., and is twelve miles in length. The boats and canoes have to be dragged or carried across it,—a work of time and considerable difficulty. The valley on the north side is upwards of one thousand feet deep, and the view from the summit full thirty miles in extent.

The stream being now favourable, the voyageur enjoys a short respite until the numerous rapids and portages in the Washacummo or Clear Water River again call forth his exertions. 'At the distance of ten miles below the Portage the channel of the river is obstructed by a ridge of limestone, which appears to have once blocked up the outlet of the valley altogether, for portions of it still rise from the solid strata through the thin sandy soil of the plain to the height of fifty or sixty feet. These pro-



jecting parts have generally a columnar form, and bear from their arrangement a striking resemblance to the ruins of an extensive city.'—(Franklin, p. 515 ; Richardson's Geog. Observ.)

After entering the Elk River the country becomes less hilly, and before getting to an establishment called ' Pierre au Calumet,' situated on the right bank of the stream, there is (says Dr. Richardson) a limestone, having its strata waved or dipping both to the east and west. Farther down the river there is a peaty bog, whose crevices are filled with petroleum, a mineral which exists in great abundance in this district. We never observed it flowing from the limestone but always above it, and generally agglutinating the beds of sand into a kind of pitchy sandstone. Sometimes fragments of this stone contain so much petroleum as to float down the stream. The limestone dips under the water, and disappears at Pierre au Calumet, and the pitchy sandstone cliffs, which rest on it, also terminate there. This spot, situate between three or four miles below an old fort, obtains its name from a bed of yellowish-grey compact marl, which forms a small cliff on the bank of the river, and is quarried by the voyageurs for the purpose of making "calumets," or pipes.'—(Appendix, Franklin's Journey, No. I.)

The stream continues smooth and unbroken by rapids, and flows into the Athabasca Lake, amidst ' low and alluvial' land ' containing much vegetable matter, and overgrown with willows and aspens.'—Near the western extremity of the lake is Fort Chipewyan, where a further stock of pemmican would have been deposited, had the gentlemen of the Hudson's Bay Company been apprized in time to have collected it; though, from the arrangements that have taken place, there is little doubt that an additional quantity of bags will eventually be supplied for a period when it will be more serviceable than at the moment of the expedition passing.

' The country around Fort Chipewyan is composed of roundish masses of naked rock, which, heaped as it were on each other, and rising as they recede from the lake, attain, at the distance of a mile from the shore, an elevation of five or six hundred feet. The valleys are narrow, their sides often precipitous, and the general form of the hills may be termed short-conical, though their outline is very uneven. The rocks also form many islands in the lake, from two to three hundred feet high, and generally bounded on one or more sides by precipices. The fort seems to stand upon granite rock.'—(Appendix, No. I., p. 516.)

Passing through Stony River we follow the stream of the Slave River, which, for some distance, is bordered by granitic rocks, and interrupted by a succession of falls and rapids, below which the banks are alluvial. 'A great quantity of large drift timber is brought down by Peace River; and as the trees retain their

roots, which are often loaded with earth or stones, they readily sink, especially when water-soaked, and accumulating in the eddies form shoals which ultimately augment into islands. A thicket of small willows covers the new-formed island as soon as it appears above water, and their fibrous roots serve to bind the whole firmly together. Sections of these islands are annually made by the river, assisted by the frost; and it is interesting to study the diversity of appearance they present, according to their different ages. The trunks of the trees gradually decay until they are converted into a blackish-brown substance resembling peat, but which retains more or less of the fibrous structure of the wood; and layers of this often alternate with layers of clay and sand, the whole being penetrated to the depth of four or five yards, or more, by the long fibrous roots of the willows. A deposit of this kind, with the aid of a little infiltration of bituminous matter, would produce an excellent imitation of coal with vegetable impressions of the willow root. What appears most remarkable is the horizontal slaty structure which the older alluvial banks present, or the regular curve which the strata assume from unequal subsidence. It was on the rivers only that we could observe sections of these deposits, but the same operation goes on, on a much more magnificent scale, in the lakes.'—(Richardson, Appendix, No. I. p. 518.)

On entering Great Slave Lake, instead of taking a northerly or a north-westerly direction, as Sir John Franklin did in his two journeys to the Coppermine and Mackenzie Rivers, the present expedition will coast the southern shores of the lake to its eastern extremity;—whence it will proceed, by a route well known to the natives, to the banks of the Thlov-ee-cho, or Great Fish River. Hearne crossed this river high up, and describes it as flowing through a country so abounding in animals as not only to furnish an ample supply to his party at that time, consisting of two hundred people, but also to enable the Indians to kill 'great numbers of deer merely for the fat, marrow, and tongues.' This author likewise informs us, that the lakes are rich in fish. Hearne is the only European who has traversed that district, but the incidental notices contained in his work tend to confirm the more detailed accounts we received from the natives, of the vicinity of the Great Fish River being well adapted for the winter residence and support of an exploring party, both on account of its woods and the game that resorts to them. From the Indians we also learn, that the access from Great Slave Lake to the Fish River is easy, the water communication being interrupted by only three short portages. Indeed, as the rising ground in which the river originates is the same that I crossed, in my several journeys to and from Fort Enterprise, when I was attached to Sir John Franklin's First Expedition, I should not, even in the absence of



all Indian information, expect to meet with any obstacles that I could not surmount in a very few days, with the means to be placed at my disposal. The Indians unanimously agree in reporting the river to be larger than the Coppermine, and therefore more navigable; and if it rises, as they say, farther to the southward, as the direction of the rising grounds and Hearne's map would also lead us to believe, its length will be greater; and, originating as it does in a less elevation, its descent, and consequently the number or magnitude of its rapids, will be less. From clumps of wood having been observed growing near its mouth, I have been led to think that it falls into the Arctic Sea, nearly in the same parallel of latitude that the Coppermine does. The longitude of its mouth can with less certainty be deduced from the reports of the Chepewyans. This people, about thirty years ago, were accustomed to make war on the Esquimaux, and in their hostile journeys along the coast for that purpose, they were wont to cut across the land from the mouth of one large stream to that of another, knowing that at such places they were likely to find the people they sought. I have seen several maps, traced by these Indian warriors, on which the distances were indicated by the number of nights they slept on their journeys between the rivers; and, judging from them, I should be inclined to fix the debouche of the river near the hundredth meridian. These maps concur in exhibiting a far projecting promontory between the Coppermine and Fish Rivers, another to the eastward of the latter, and three small islands off its mouth. The debouche of this river into or opposite Regent's Inlet points it out as well adapted for the starting-point of a boat expedition, in search of the crew of any vessel known to have had the intention of visiting the wreck of the *Fury*: and the route which the expedition will take from the United States to its ultimate starting-point presents a water communication from the great Canadian lakes to the Arctic Sea, interrupted by numerous portages it is true, but by only one that merits remark for the length of time that it will detain the party, namely, the *Portage la Loche*, which is twelve miles long. The others, though inconvenient from their frequency, are comparatively short, averaging considerably less than a mile.

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